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<p>(21) International Application Number: PCT/US88/03824</p> <p>(22) International Filing Date: 27 October 1988 (27.10.88)</p> <p>(31) Priority Application Number: 115,923</p> <p>(32) Priority Date: 28 October 1987 (28.10.87)</p> <p>(33) Priority Country: US</p> <p>(60) Parent Application or Grant (63) Related by Continuation US 115,923 (CIP) Filed on 28 October 1987 (28.10.87)</p> <p>(71) Applicant (<i>for all designated States except US</i>): PRO-NEURON, INC. [US/US]: 1530 East Jefferson Street, Rockville, MD 20852 (US).</p>		<p>(72) Inventors; and (75) Inventors/Applicants (<i>for US only</i>): VON BORSTEL, Reid, Warren [US/US]: 3115 University Blvd. West, Kensington, MD 20895 (US). BAMAT, Michael, Kevin [US/US]: 6516 Western Avenue, Chevy Chase, MD 20815 (US).</p> <p>(74) Agent: EVANS, Barry; Curtis, Morris & Safford, 530 Fifth Avenue, New York, NY 10036 (US).</p> <p>(81) Designated States: AT (European patent), AU, BE (European patent), BR, CH (European patent), DE (European patent), DK, FI, FR (European patent), GB (European patent), IT (European patent), JP, KR, LU (European patent), NL (European patent), NO, SE (European patent), SU, US.</p> <p>Published <i>With international search report</i> <i>With amended claims</i></p> <p>Date of publication of the amended claims: 1 June 1989 (01.06.89)</p>	

(54) Title: ACYL DEOXYRIBONUCLEOSIDE DERIVATIVES AND USES THEREOF

(57) Abstract

The invention relates to compositions comprising acyl derivatives of 2'-deoxyribonucleosides. The invention also relates to methods of treating or preventing radiation, mutagen and sunlight-induced biological damage, and methods for improving wound healing and tissue repair, comprising administering the composition of the present invention to an animal.

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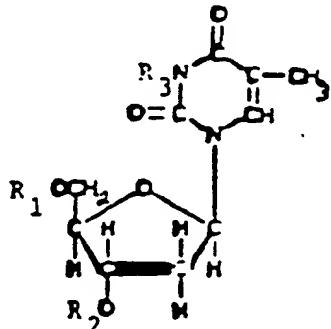
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AMENDED CLAIMS

[received by the International Bureau on 8 May 1989 (08.05.89)
 original claim 8 cancelled; claims 7 and 13 amended; other claims unchanged (3 pages)]

7. An acyl derivative of 2'-deoxythymidine,
 having the formula

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wherein R_1 is an acyl group derived from
 (a) an unbranched fatty acid with 18 to 22 carbon

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atoms,
 (b) an amino acid selected from the group consisting
 of glycine, the L forms of alanine, valine,
 leucine, isoleucine, tyrosine, proline,
 hydroxyproline, serine, threonine, cysteine,
 aspartic acid, glutamic acid, arginine, lysine,
 histidine, carnitine, and ornithine,

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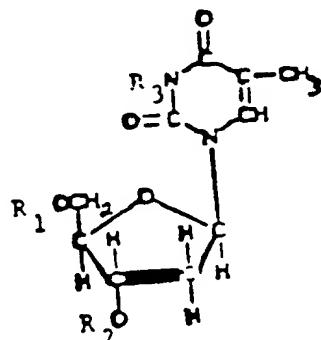
(c) nicotinic acid, or

(d) a dicarboxylic acid having 3 to 22 carbon atoms,
 and R_2 and R_3 are H, or a pharmaceutically acceptable salt
 thereof.

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9. An acyl derivative of 2'-deoxythymidine,
 having the formula

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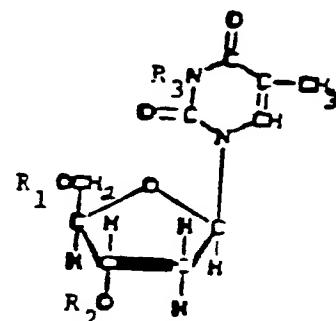
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and R_3 is H or a pharmaceutically acceptable salt thereof.

12. An acyl derivative of 2'-deoxythymidine as recited in claim 11 wherein R_1 and R_2 are the same or different and each is an acyl group derived from an unbranched fatty acid with 6 to 16 carbon atoms.

5 13. An acyl derivative of 2'-deoxythymidine, having the formula

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wherein R_1 and R_2 are the same or different and each is an acyl group derived from

- (a) an unbranched fatty acid with 2 to 22 carbon atoms,
- 20 (b) an amino acid selected from the group consisting of glycine, the L forms of alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, serine, threonine, cysteine, aspartic acid, glutamic acid, arginine, lysine, histidine, carnitine, and ornithine,
- 25 (c) nicotinic acid, or
- (d) a dicarboxylic acid with 3 to 22 carbon atoms, provided that R_1 and R_2 are not both selected from set (a), and R_3 is an acyl group derived from an optionally substituted benzoyl or heterocyclic carboxylic acid that is substantially nontoxic, or a pharmaceutically acceptable salt thereof.

30 35 14. An acyl derivative of 2'-deoxythymidine, as recited in claim 13 wherein R_1 and R_2 are the same or

different and each is an acyl group derived from an unbranched fatty acid with 6 to 16 carbon atoms and R₃ is an acyl group derived from nicotinic acid, benzoic acid, or para-aminobenzoic acid.

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